

# COASTAL CONSERVANCY

Staff Recommendation  
May 26, 2016

## **EAST BRANCH RUSSIAN GULCH FISH PASSAGE IMPROVEMENT**

Project No. 16-017-01  
Project Manager: Lisa Ames

**RECOMMENDED ACTION:** Authorization to disburse up to \$200,000 to The Wildlands Conservancy to complete final designs and implement six fish passage and habitat improvement projects in the East Branch of the Russian Gulch in coastal Sonoma County.

**LOCATION:** Russian Gulch Watershed in Coastal Sonoma County, near Jenner. (Exhibit 1)

**PROGRAM CATEGORY:** Resource Enhancement

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### **EXHIBITS**

- Exhibit 1: [Project Location Map](#)
  - Exhibit 2: [Project Map and Design Plans](#)
  - Exhibit 3: [Project Photos](#)
  - Exhibit 4: [Project Letters](#)
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### **RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251 through 31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to two hundred thousand dollars (\$200,000) to The Wildlands Conservancy (TWC) to complete final designs and implement six fish passage and habitat improvement projects in the East Branch of the Russian Gulch in Sonoma County, subject to the following conditions:

1. Prior to the disbursement of funds for the design component of the project, TWC shall submit for the review and approval of the Conservancy’s Executive Officer, a final work program, schedule, budget, and the names and qualifications of any contractors.
2. Prior to the disbursement of funds for implementing the fish passage improvement projects, TWC shall submit for the review and approval of the Conservancy’s Executive Officer, a work program, including schedule and budget, the names and qualifications of any contractors, a plan for acknowledging Conservancy funding, and evidence that all permits and approvals required to implement the project have been obtained.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 6 of Division 21 of the Public Resources Code, regarding resource enhancement.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Wildlands Conservancy is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”

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### **PROJECT SUMMARY:**

Staff recommends the Conservancy disburse up to \$200,000 to The Wildlands Conservancy (TWC) to prepare final designs and implement six fish passage and habitat improvement projects in the East Branch of the Russian Gulch in coastal Sonoma County (Exhibit 1). The proposed project will remove or modify six large woody debris (LWD) jams in order to improve fish passage conditions for federally-listed salmonids and improve overall stream function. Removal and modification of the barriers will make available more than 3 miles of spawning and rearing habitat for anadromous fish.

Located 2 miles north of Jenner, Russian Gulch flows directly into the Pacific Ocean; it drains a 11.4 square mile watershed and consists of three primary basins; East Branch Russian Gulch, Middle Branch Russian Gulch (Main Stem), and West Branch Russian Gulch. Elevations range from over 2,200 feet in the headwaters to sea level at its confluence with the Pacific.

Stream inventories were conducted by California Department of Fish & Wildlife (CDFW) on the Middle and East Branch in 1965 and 2005. Amongst several of the recommendations from the 2005 survey, CDFW called for the removal of LWD jams in the East Branch, which is consistent with the recommendations in the Jenner Headlands Instream Habitat Assessment for the East Branch Russian Gulch Restoration Forestry Timber Harvest Plan (Fawcett Environmental Consulting, 2012), and the Russian Gulch Enhancement Plan (GHD, Inc., Prepared for the Sonoma Land Trust and The Wildlands Conservancy, 2013).

The Russian Gulch Enhancement Plan identified five sites containing six LWD jams that are critical fish passage and stream habitat impediments in the East Branch. It is likely that the wood within the jams are the remnants of historic logging activities within the watershed. Many of the LWD jams have at least one large key stump, with an intact rootwad providing the foundation of the jams. The log jams are so large and dense that they serve as a barrier to anadromous fish (see Exhibit 3, Project Photos).

In consultation with several regulatory agencies including CDFW, National Marine Fisheries Service (NMFS), Natural Resource Conservation Service (NRCS), and the North Coast Regional Water Quality Control Board (NCRWQCB), TWC developed the preliminary design plans for removal or modification of the LWD jams in the East Branch. (Exhibit 2) All work will be completed by hand crews, likely using methods discussed in the Russian Gulch East Branch

Intermediate Design Memorandum included in the design plans. As part of the proposed project, TWC will develop a Final Implementation and Monitoring Plan (Plan) that will provide specific details, through text and figures, on acceptable modification methods, sequencing, and reuse options based on regulatory review. The Plan will also specify water management, fish relocation, pre- and post-monitoring, and site access details.

Hand crews will remove wood from the LWD jams in one or two seasons depending on the specific site and the anticipated geomorphic response to the LWD jam modification. The seasons may not be in consecutive summers if the geomorphic response does not meet the criteria specified in the Plan. It is assumed that the second season would occur at most two summers from the first season. All wood will be moved upslope sufficiently above high flow elevations. This wood may be used in future projects to benefit anadromous fish once the channel has adjusted.

TWC submitted an application to fund the East Branch Russian Gulch Fish Passage Improvement Project under the Conservancy's Proposition 1 (Water Quality, Supply, and Infrastructure Improvement Act of 2014, Water Code § 79700 et seq.) competitive grant process. The proposed project was selected under the Conservancy's *Proposition 1 Grant Program Guidelines* because it ranked highly in meeting the evaluation criteria of a multi-benefit ecosystem and watershed protection and restoration project. If implemented, the project will achieve a number of the purposes outlined in Chapter 6 of Proposition 1 including: assisting in the recovery of an endangered species by improving watershed health, in-stream flows and fish passage; protecting and restoring aquatic, wetland and migratory bird ecosystems including fish and wildlife corridors; reducing pollution or contamination of rivers and streams, and protecting or restoring natural system functions that contribute to water supply, water quality, or flood management; and implementing a watershed adaptation project for which the Grantee has consulted with the state and local conservation corps and included their services.

TWC owns the Jenner Headlands Preserve, which was acquired in part with Conservancy funds, and manages it according to an Integrated Resource Management Plan (IRMP) developed in collaboration with the Sonoma Land Trust. TWC is a non-profit, public benefit organization that owns 12 preserves encompassing over 145,000 acres located throughout the state of California. TWC has a well-established history of stewarding open space preserves using best known ecological management practices and providing free public recreation on its properties to encourage public participation in saving magnificent landscapes and restoring California's biodiversity.

**Site Description:** Located 2 miles north of Jenner, Russian Gulch flows directly into the Pacific Ocean; it drains an 11.4 square mile watershed and consists of three primary basins; East Branch Russian Gulch, Middle Branch Russian Gulch (Main Stem), and West Branch Russian Gulch. Elevations range from over 2,200 feet in the headwaters to sea level at its confluence with the Pacific. Highway 1 crosses the Russian Gulch at approximately river mile 0.5. At approximately river mile 1.0, the main stem forks into its three tributaries. This project focuses on six sites located within the East Branch.

The East Branch Russian Gulch subwatershed is approximately 3.92 square miles, which is approximately 34% of the total Russian Gulch watershed and the largest of the three primary branches. A majority of the East Branch and contributing watershed is located within the Jenner Headlands Preserve, which is owned and managed by TWC. The remaining land is owned privately. The Main Stem and the lower reaches of the three tributaries support current populations of the Central California Chinook Salmon, Northern California Steelhead and Central California Coast Steelhead, and historically supported populations of California Coho Salmon.

**Project History:** In the 1950s and 1960s, the Russian Gulch watershed was extensively logged, and it is likely that the wood within the jams are the remnants of historic logging activities within the watershed.

A majority of the East Branch Russian Gulch was acquired as part of the Jenner Headlands Preserve with funds from the Conservancy, the Sonoma County Agricultural Preservation and Open Space District, California Wildlife Conservation Board, NOAA, United States Department of Agriculture Forest Service, and the Gordon and Betty Moore Foundation. The Conservancy granted \$8,000,000 toward the purchase price of the Preserve. Once acquired, an Integrated Resource Management Plan (IRMP) was prepared to serve as the guiding document for the protection, restoration, and enhancement of significant natural ecosystems and cultural resources of the Headlands and the management of the Preserve. Conservancy staff reviewed and approved the IRMP which included a recommendation to restore in-stream and riparian habitat along the Main Stem and East Branch of the Russian Gulch.

In 2013, TWC and the Sonoma Land Trust developed the Russian Gulch Habitat Enhancement Plan to provide habitat enhancement concepts for both the Main Stem and East Branch of Russian Gulch. The Plan included an assessment of watershed and reach characteristics, hydrologic analysis, and an in-depth analysis of each LWD jam that included longitudinal and cross section profiles as well as quantification of the large wood and any associated sediment impounded behind the jam. Based on this analysis, a set of recommendations were developed to modify the LWD jams and allow fish passage into the upper reaches of the watershed.

TWC consulted with a team of specialists from CDFW, NMFS, NRCS, and the NCRWQCB to further refine the recommended LWD modification methods and project approach, which are summarized in Exhibit 2.

## PROJECT FINANCING

Coastal Conservancy	\$200,000
TWC	\$141,250
<b>Project Total</b>	<b>\$341,250</b>

In addition to contributing to the restoration work, TWC is providing an in-kind match of staff time, as well as the long-term management and monitoring of the restoration improvements on the East Branch Russian Gulch.

The expected source of Conservancy funds for this project is the fiscal year 2015/16 appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732(a) identifies the specific purposes of Chapter 6, of which the following pertain to this project: protect and increase the economic benefits arising from healthy watersheds, fishery resources and in-stream flows (subsection (a)(1)); protect and restore aquatic, wetland and migratory bird ecosystems including fish and wildlife corridors (subsection (a)(4)); remove barriers to fish passage (subsection (a)(6)); protect and restore coastal watersheds (subsection (a)(10)); reduce pollution or contamination of rivers and streams, and protect or restore natural system functions that contribute to water supply, water quality, or flood management (subsection (a)(11)); and assist in the recovery of endangered species by improving watershed health, instream flows, and fish passage (subsection (a)(12)).

As required by Proposition 1, the proposed project provides multiple benefits. By removing barriers to fish passage, the project will restore the watershed health of the entire Russian Gulch, aid in the recovery of an endangered species, and aid in the restoration of the local fishery which will provide economic benefit to the coastal communities around Jenner, a disadvantaged community.

The proposed project was selected through a competitive grant process under the Conservancy’s *Proposition 1 Grant Program Guidelines* adopted in June 2015. (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Proposition 1 Guidelines as described in further detail in this “Project Financing” section, the “Project Summary” section and in the “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section of this report.

### **CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

The proposed project is undertaken pursuant to Chapter 6 of Division 21 of the Public Resources Code, as follows:

Pursuant to §31251, the Conservancy may award grants to local public agencies and nonprofit organizations for the purpose of enhancement of coastal resources which, because of human-induced events, or incompatible land uses, have suffered loss of natural and scenic values. Consistent with this section, the proposed authorization provides funds to TWC to enhance coastal fishery resources disturbed by incompatible land uses, such as LWD jams resulting from historic timber operations.

As required by Section 31252, the project area has been identified in a certified local coastal plan or program as requiring public action to resolve existing or potential resource protection problems. In particular, the proposed project will implement the Sonoma County Local Coastal Program’s environmental resource management goal of maintaining flows in streams identified as anadromous fish habitat at a minimum flow level as required to continue their use as an anadromous fish spawning area.

Pursuant to §31253, “[t]he Conservancy may provide up to the total of the cost of any coastal resource enhancement project . . . .” Consistent with this section, the proposed contribution, intended for design and implementation of six LWD removal or modification projects, represents two thirds of the overall project cost and, in determining the funding amount, the Conservancy has considered factors relevant to project eligibility, as detailed in the “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section, below.

**CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN  
GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:**

Consistent with **Goal 5, Objective E** of the Conservancy’s 2013-2018 Strategic Plan, the proposed implementation project will improve fish habitat by removing six barriers to fish passage, ensuring sufficient in-stream flow and providing in-stream habitat and favorable water temperatures.

Consistent with **Goal 5, Objective G**, the project will improve water quality to benefit coastal and ocean resources by opening up 3 miles of spawning and rearing habitat for anadromous fish.

**CONSISTENCY WITH CONSERVANCY’S  
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

**Required Criteria**

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Promotion and implementation of state plans and policies:** The proposed project would serve to promote and implement several state plans, including:
  - *California Water Action Plan* (2014). The California Natural Resources Agency, California Environmental Protection Agency, and California Department of Food and Agriculture developed this Water Action Plan to meet three broad objectives: more reliable water supplies, the restoration of species and habitat, and a more resilient, sustainably managed water resources system. This project will advance the following goals of the Plan : **#2 Increase regional self-reliance and integrated water management across all levels of government**, and **#4 protect and restore important ecosystem**, as follows:
    - Provide Assistance to Disadvantaged Communities; the community surrounding Jenner is considered a disadvantaged community. This project will contribute to the restoration of the local fishery and providing fish passage to historic breeding habitat.

- Encourage State Focus on Project with Multiple Benefits; this project will provide improved habitat for spawning and over- summer juvenile rearing through increased passage to the upper watershed while improving watershed health and boosting the local fishing economy.
  - Restore Coastal Watersheds; the project will restore access to 3.14 miles of anadromous fish spawning habitat upstream of the barriers.
  - Eliminate Barriers to Fish Migration; the existing LWD jams are complete barriers to salmonids due to jump height, water velocity, water depth and fall back.
  - *California @ 50 Million: The Environmental Goals and Policy Report* (Governor's Office of Planning and Research, 2013 Draft). By removing barriers to fish passage, the proposed project will promote this policy under the following action:
    - Key Action #3 of the "Preserve and Steward State Lands and Natural Resources" calls for building resilience in natural systems and specifically calls out the need to maintain intact ecosystems and necessary habitat for the state's native species and provide migration corridors.
  - *Various State and Federal Endangered Species Recovery Plans*. By restoring access to 3.14 miles of habitat within the East Branch for the Central California Chinook Salmon, Northern California Steelhead and Central California Coast Steelhead, the proposed project will implement the following plans:
    - *Recovery Strategy for California Coho Salmon* (CDFG, 2004).
    - *Draft Coastal Multispecies Public Draft Recovery Plan: California Coastal Chinook Salmon ESU, Northern California Steelhead DPS and Central California Coast Steelhead DPS*. (National Marine Fisheries Service, California, 2015).
- CA Wildlife Action Plan*. (UC Davis Wildlife Health Center for the California Department of Fish and Game, 2007)
4. **Support of the public:** The project has received support from the NRCS, Sonoma Resource Conservation District, California State Parks, CDFW, Sonoma County Agricultural Preservation and Open Space District, Sonoma Land Trust, the Russian River Coho Salmon Captive Broodstock Program and others as evidenced in Exhibit 4.
  5. **Location:** The proposed project would be located within the coastal zone of Sonoma County.
  6. **Need:** Without Conservancy funding, the project will not move forward and TWC will miss the opportunity to remove fish barriers to 3.1 miles of new spawning and rearing habitat for federally listed anadromous fish.
  7. **Greater-than-local interest:** Salmonid populations along the north coast are in decline due in large part to past land use history. Before large scale clear-cutting of the forests that blanketed the Russian Gulch watershed, salmonids thrived, and locals used to fish the stream. Human alteration of the landscape has degraded water quality and fish habitat, with only steelhead populations still extant in the creek. Much of the creek system has recovered from past land use to provide good quality spawning habitat. However, in most years fish passage barriers form an impenetrable barrier effectively cutting off the upper watershed. Removal

of fish passage barriers first documented in 1965 will open up 3 miles of spawning habitat that is well forested with conifers and alders. Once available, this habitat is expected to be immediately used by salmonids, providing immediate benefit to these declining populations.

8. **Sea level rise vulnerability:** The proposed project is located far enough inland to not be impacted by sea level rise.

#### **Additional Criteria**

9. **Resolution of more than one issue:** By removing fish passage barriers in the East Branch, this project will restore degraded habitat for an endangered species, improve watershed health as well as provide a boost to the local fishing stocks if successful.
10. **Innovation:** A major emphasis of modern stream restoration is on the reintroduction of large wood into waterways that have been disconnected from historic sources of in-stream wood. The East Branch Russian Gulch Fish Passage Improvement Project is a unique project as surplus large wood within the stream has become a barrier to fish passage. The project concept is counter to the general restoration trend. Large wood will be removed from the six sites identified in the Enhancement Plan. Measures to monitoring the effectiveness of this unique project would be outlined in the Implementation and Monitoring plan to be developed as part of this project.

As the majority of implementation works will include hand equipment, salvaging most of the removed LWD and placing it in appropriate locations, immediately downstream of the jam is feasible and will provide beneficial reuse.

11. **Readiness:** TWC has received confirmation from the Conservation Corps, which will undertake the work under an agreement with TWC, that they are able to begin work in summer 2016.
12. **Realization of prior Conservancy goals:** “See “Project History” above.”
13. **Cooperation:** TWC has been and will continue to work closely with regulatory agencies with an interest in restoring Russian Gulch salmonid populations.
14. **Vulnerability from climate change impacts other than sea level rise:** The effects of changes in precipitation and runoff as a result of increasing global temperatures will likely affect the Russian Gulch watershed. Climate models are being continuously refined and new projections are made on a regular basis. Overall climate change is anticipated to result in more intense storms, which may potentially increase flood runoff and flood depths.  
  
Salmonids are already being affected by river temperature increases across the state. Increasing fish passage within the East Branch Russian Gulch will open up more cold water habitat for salmonids in the headwaters that would experience cooler temperatures than downstream reaches.
15. **Minimization of greenhouse gas emissions:** The majority of LWD jam removals will be completed by hand crews. On rare cases where hand crews may be unable to complete LWD removal, some equipment is anticipated. However, a majority of the work will be completed using chainsaws and grip-hoists instead of heavy machinery. The carbon footprint therefore will be greatly reduced compared to projects using heavy machinery.



**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The proposed project is consistent with the Sonoma County Local Coastal Program (LCP), certified in June 1981 and revised and incorporated into the Sonoma County General Plan updated in December 2008, in respect to Section III concerning environmental resource management. The project will lead to implementing the following recommendation of the LCP for anadromous fish streams such as East Branch Russian Gulch and its tributaries: 68.) Maintain flows in streams identified as anadromous fish habitat at a minimum flow level as required to continue their use as an anadromous fish spawning area.

**COMPLIANCE WITH CEQA:**

Staff has reviewed the proposed project and determined that the overall project is exempt from the California Environmental Quality Act (CEQA) pursuant to the CEQA Guidelines, Title 14 of the California Code of Regulations, Section 15333 because this implementation project is a small habitat restoration project that cumulatively does not exceed five acres in size to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife. The project meets the additional conditions of this categorical exemption. There would be no significant adverse impact on endangered, rare or threatened species or their habitat pursuant to CEQA Guidelines section 15065 because work will be conducted when on-site surveys confirm that fish are not present in-stream. In addition, there are no hazardous materials at or around the site that might be disturbed and the project will not result in significant impacts when viewed in connection with the effects of past, present, or probable future projects. The project methodology has been reviewed and endorsed by CDFW and is intended and designed to have beneficial effect on endangered species.

Staff will file a Notice of Exemption upon Conservancy approval.